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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,154

02/03/2006

Emil Giza

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EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1791

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,154	<b>Applicant(s)</b> GIZA, EMIL	
	<b>Examiner</b> Justin R. Fischer	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 4-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giza (WO 02/094962) and further in view of Rubber Engineering (SU 418341) and/or Rubber Engineering (SU 234659) and/or Suzuki (JP 9-302592) . It is initially noted that US 7,329,693 will be relied upon in the rejection below (English equivalent of WO '962).

Giza teaches a method of applying an adhesive composition to a twisted cord, including spraying (Column 8, Lines 50+). The reference further recognizes the desire to remove excess adhesive (Column 12, Lines 1+). In this instance, the removal technique (squeeze rollers) is directed with relation to one of the application techniques (immersion). While the reference fails to expressly suggest removal steps for each of the application techniques, the use of blow nozzles represents a well known and conventional technique of removing excess adhesive, as shown for example by Rubber Engineering '341, Rubber Engineering '659, and Suzuki. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use blow nozzles to remove excess adhesive in the method of Giza.

As to claim 4, the adhesive composition of Giza appears to be identical to that of the claimed invention (components A-D) and as such, one of ordinary skill in the art at the time of the invention would have expected the adhesive of Giza to demonstrate the claimed viscosity.

Regarding claim 5, the adhesive of Giza includes a conjugated diene polymer having a weight average molecular weight of 500-100,000 and an electron pair donating basic compound (Column 3, Lines 30-35).

With respect to claim 6, said electron pair donating basic compound is included at a loading between 0.2 and 50 phr (Column 6, Lines 8-10).

As to claim 7, Giza teaches the claimed relationship (Column 5, Lines 30-50).

Regarding claim 8, the limitations compare the sulfur count quantity in the adhesive layer and the adhered rubber- such language does not further define the method of forming a cord having an adhesive thereon (makeup of adhered rubber is independent of the claimed method directed to forming an adhesive coated cord).

With respect to claim 9, the adhesive composition of Giza includes each of the claimed components (Column 2, Lines 56+).

As to claims 10, 11, 23, and 24, the conjugated diene can include a terminal group, such as acryloyl or methacryloyl (Column 4, Lines 5-14).

Regarding claims 12-18, the electron pair donating basic compound of Giza can be compounds containing a nitrogen atom having a lone pair of compounds capable of producing compounds having a lone pair by thermal decomposition (Column 4, Line 35-Column 5, Line 21).

With respect to claims 19, 20, and 25, the adhesive of Giza includes component C at a loading between 30 and 80 phr (Column 6, Lines 15+).

As to claims 21 and 26, Giza suggests the inclusion of at least one additive, such as epoxy compounds, inorganic fillers, and high molecular weight fillers (Column 7, Lines 43-47).

Regarding claim 22, components E and F are analogous to components C and D of Giza.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giza, Rubber Engineering '341, Rubber Engineering '659, and Suzuki as applied in claim 1 above and further in view of Miller (US 5,458,684). As detailed above, Giza in view of Rubber Engineering '341, Rubber Engineering '659, and Suzuki teach a method of spraying an adhesive on a twisted tire cord and removing excess adhesive via a blow nozzle. While the reference fails to expressly describe using a pump, it is extremely well known to feed adhesive material to a sprayer via a pump (well known means of transporting adhesive material from reservoir through feed line). Miller (Abstract) provides one example of such a well known technique in which a metered amount of adhesive is fed to spray nozzles by a pump. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use a pump in the spray application method detailed by Giza.

### ***Response to Arguments***

4. Applicant's arguments filed August 14, 2008 have been fully considered but they are not persuasive.

Applicant initially argues that Giza teaches that after the tire cord is immersed in the undercoat composition, the tire cords is passed between squeeze rolls to remove excess undercoat composition. As detailed in the rejection above, however, Giza is directed to a wide variety of application techniques and the disclosure of squeeze rolls appears to be associated with a single application technique (immersion application). More particularly Giza suggests a spray application technique and in such a method, the use of blow nozzles to remove excess adhesive would have been obvious to one having ordinary skill in the art, in view of Rubber Engineering '5541, Rubber Engineering '659, and Suzuki. It is emphasized that the disclosure of squeeze rolls does not teach away from the use of additional, known techniques to remove excess adhesive (disclosed removal is specific to immersion application technique). Also, in regards to the use of blow nozzles, Suzuki, which was applied in an alternative manner, has been removed.

Regarding claim 4, applicant argues that Giza discloses butadiene polymers with a viscosity of 3.4 Pa·s (3,400 mPa·s). In this exemplary embodiment, however, Giza is referring solely to the viscosity of the butadiene and not the adhesive as a whole. The reference is silent as to the viscosity of the entire adhesive composition. As set for in the rejection above, the adhesive of Giza appears to be identical tot hat of the claimed invention (components A-D) and as such, one of ordinary skill in the art at the time of the invention would have expected a plurality of adhesives disclosed by Giza to satisfy the broad range of the claimed invention. It is further noted that applicant has not

provided a conclusive showing of unexpected results to establish a criticality for the claimed viscosity.

As to claim 8, applicant argues that Giza does not disclose or suggest that the sulfur count quantity in the adhesive layer for rubber becomes larger than an average distribution of the sulfur count quantity of the adhered rubber. As set forth in the rejection above, however, the claims are directed to a method of producing a tire cord and limitations directed to forming a composite do not further define the claimed tire cord making method (limitations are concerned with use of tire cord having adhesive applied thereon in the manufacture of a composite article).

With respect to claim 3, applicant argues that the examiner has not cited a prior art reference to support the examiner's official notice position. In response, Miller has been cited to demonstrate the known use of pumps to provide a predetermined or metered amount of adhesive in adhesive application systems formed with spray nozzles.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Justin Fischer

/Justin R Fischer/

Primary Examiner, Art Unit 1791

September 19, 2008